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EXAMINER	
AGGARWAL, YOGESH K	

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/941,590	KUWATA ET AL.	
	Examiner	Art Unit	
	Yogesh K Aggarwal	2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-56 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-56 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 30 August 2001 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 01/03/2005.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-15,17,19-21,23,27,28-36,38,43,45 and 51-56 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakajima (US Patent # 6,650,437).

[Claim 1]

Nakajima teaches an image data generating apparatus (figures 1-6) comprising means for generating image data (col. 13 lines 30-34, figure 1, scanner 30), means for generating color space information (figure 4 shows color space information) to be used in processing said image data by an image processing apparatus (col. 13 lines 35-42, figures 1-3, image data exchanger 14); and means for storing (90) said image data in association with said color space information (col. 13 lines 43-45, See figures 3 and 4).

[Claims 2 and 3]

Nakajima teaches an image information exchanger device 14 like a PC (col. 11 lines 35-42) has a hard disk 88 that functions as a spool 90 (col. 11 lines 49-56) and is a means for storing a plurality of items of color space information designated for different types of color spaces and a plurality of combinations of identifying information (e.g. different values of color space =1,2,3 corresponds to LUT1, LUT2 and LUT3) for candidate image processing apparatuses (different types of scanners A, B and C) and associated color space information for each candidate image

processing apparatus (col. 15 lines 10-64, figure 5). A image information exchanger device 14 which is a PC as stated (col. 11 lines 35-42) has a display device 56 and keyboard 58 like one shown in figure 2 which can inherently be used as a means for designating color space by displaying said plurality of items of color space information on the monitor 56, and selecting one item of color space information (by designating color space values 1, 2 or 3) and candidate image processing apparatuses from among the color spaces (LUT 1, LUT2, LUT3) and candidate image processing apparatuses (scanners A, B and C) information by the keyboard 56 which are stored in the hard disk.

[Claim 4]

Nakajima teaches a means for assembling an output file that contains said image data, and said color space information (col. 11 lines 59-65, figure 4).

[Claim 5]

Nakajima teaches an interface 16 for communicating said output file to said external device (col. 14 lines 37-42).

[Claim 6]

Nakajima teaches an image data generating apparatus (figures 1-6) comprising means for acquiring image data (col. 13 lines 30-34, figure 1, scanner 30); means for designating with color space information an output color space to be used by an image processing apparatus in color space conversion (col. 15 lines 3-65), an image information exchanger device 14 like a PC (col. 11 lines 35-42) is a different apparatus than said means for acquiring data which is a scanner 30; and means for generating an image file containing image data obtained by said means for acquiring, and the color space information (col. 13 lines 30-45, See figures 3 and 4).

[Claim 7]

The second color space (first RGB, e.g. s-RGB) has a gamut width at least equal to a color space like RGB (Nakajima teaches in col. 14 line 53- col. 15 line 2 a s-RGB color space used in the synthesis of the image data which inherently has a gamut width at least equal to a color space like RGB).

[Claims 8-14]

Method claims 8-14 correspond to apparatus claims 1-7 and are therefore analyzed and rejected the same as previously discussed with respect to apparatus claims 1-7.

[Claim 15]

Nakajima teaches that the scanner 30 calls a putImage function by using as an argument the attribute information expressing various attributes of the image data like color space and the output location of the image data. This attribute information which corresponds to the color space of the image data (col. 15 lines 56-58) and the image data itself are propagated to the image data exchanger 14, wherein the CPU 78 converts the image data and the attribute information into a file structure into a basic property function as disclosed in figure 4 (col. 13 lines 16-44). Nakajima further teaches that RGB image data particular to the scanner, which are inputted from the scanner, are written onto a CD-R, the RGB image data is converted into color space s-RGB image data. The color space s-RGB is a color space, which is determined such that an image displayed on a CRT to be viewed at a preferable quality (col. 14 line 53- col. 15 line 2) and therefore reads on the color space information being associated with an image processing apparatus performs a color space conversion on said image data in said image processing apparatus.

[Claim 17]

Nakajima teaches an image data generating apparatus (figures 1-6) comprising an image data generation mechanism configured to generate image data (col. 13 lines 30-34, figure 1, scanner 30), an image file assembly mechanism (CPU 78) configured to assemble an image file containing image data generated by said image data generation mechanism (col. 13 lines 16-44, figure 4 shows color space information and image data assembled in a file) and color space information to be used in processing said image data by an image processing apparatus (col. 13 lines 35-42, figures 1-3, image data exchanger 14); memory configured to store (90) said image data in association with said color space information (col. 13 lines 43-45, See figures 3 and 4).

[Claims 19-20]

Claims 19-20 recite what was discussed with respect to claims 2 and 3.

[Claim 21]

Nakajima teaches that the image data generation mechanism is a scanner (col. 13 lines 30-34, scanner 30).

[Claim 23]

Claim 23 recite what was discussed with respect to claim 4.

[Claim 27]

Nakajima teaches an interface 16 for communicating said output file to said external device (col. 14 lines 37-42), which would inherently be transmitted as an electric signal.

[Claims 28-29]

Claims 28 and 29 recite what was discussed with respect to claims 6 and 7.

[Claims 30-35]

Computer program storing claims 30-35 corresponds to apparatus claims 1-4, 6 and 7 and are therefore analyzed and rejected the same as previously discussed with respect to apparatus claims 1-4, 6, 7.

[Claim 38]

Nakajima teaches an image processing apparatus (figures 1-6) for performing image processing on image files (figure 4) containing image data and color space information, comprising means for acquiring an image file containing image data (col. 13 lines 30-34, figure 1, scanner 30). Nakajima further teaches that RGB image data particular to the scanner, which are inputted from the scanner, are written onto a CD-R, the RGB image data is converted into color space s-RGB image data. The color space s-RGB is a color space, which is determined such that an image displayed on a CRT to be viewed at a preferable quality (col. 14 line 53- col. 15 line 2) and therefore reads on means for retrieving said color space information from said image file acquired by said means for acquiring; and means for converting the color space of said image data based on said color space information retrieved by said means for retrieving.

[Claims 36 and 43]

Computer program storing claim 36 and method claim 43 correspond to apparatus claim 38 and are therefore analyzed and rejected the same as previously discussed with respect to apparatus claim 38.

[Claim 45]

Claim 45 recites what was discussed with respect to claim 38.

[Claim 51]

Nakajima teaches an interface 16 for communicating said output file to said external device (col. 14 lines 37-42), which would inherently be transmitted as an electric signal.

[Claim 52]

Nakajima teaches a system for processing image data comprising an image data generating apparatus (figures 1-6) including means for generating image data (col. 13 lines 30-34, figure 1, scanner 30), means for generating an image file (CPU 78) containing image data generated by said means for generating (col. 13 lines 16-44, figure 4 shows color space information and image data assembled in a file) and color space information to be used in processing said image data by an image processing apparatus (col. 13 lines 35-42, figures 1-3, image data exchanger 14); means for storing (90) said image data in association with said color space information in an image file (col. 13 lines 43-45, See figures 3 and 4); Nakajima further teaches that RGB image data particular to the scanner, which are inputted from the scanner, are written onto a CD-R, the RGB image data is converted into color space s-RGB image data. The color space s-RGB is a color space, which is determined such that an image displayed on a CRT to be viewed at a preferable quality (col. 14 line 53- col. 15 line 2) and therefore reads on means for acquiring the image file containing the image data and the color space information, means for retrieving said color space information from said image file, and means for converting the color space of said image data based on said color space information retrieved by said means for retrieving.

[Claim 53]

Claim 53 recites what was previously discussed with respect to claims 6 and 52.

[Claim 54]

Method claim 54 corresponds to apparatus claim 52 and is therefore analyzed and rejected the same as previously discussed with respect to apparatus claim 52.

[Claim 55]

Claim 55 recites what was discussed with respect to claims 17 and 52.

[Claim 56]

Claim 56 recite what was discussed with respect to claims 6, 17 and 52.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 18, 22, 26, 40-42 and 47-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima (US Patent # 6,650,437) in view of Buhr et al. (US Patent # 5,528,339).

[Claim 18]

Nakajima fails to teach matrix values for use in color space conversion by the image processing apparatuses. However Buhr et al. teaches the use of a 3x3 matrix for converting from one color space into another (col. 28 lines 49-55). Therefore taking the combined teachings of Nakajima and Parulski, it would have been obvious to one skilled in the art to be motivated to have used matrix values for use in color space conversion to have less complexity in calculating color spaces as they can be done with commonly available software like MATLAB.

[Claim 22]

Nakajima teaches the limitations of claim 21 but fails to teach wherein the image generation mechanism is a DSC. However Buhr teaches that the device generating the image and color space information to be an electronic cameras in order to capture the scenes independently. Therefore taking the combined teachings of Nakajima and Buhr, it would have been obvious to one skilled in the art to have been motivated to have the image generation mechanism being a DSC in order to capture the scenes independently instead of a scanner wherein the scenes are captured via a storage medium as an input.

[Claim 26]

Nakajima teaches the limitations of claim 17 but fails to teach wherein the memory is a removable memory card. However Buhr teaches that the image data and color space are stored on a Kodak photo CD or a PCMCIA card (col. 26 lines 14-25, col. 14 lines 40-45) in order to have a portable memory medium which can be easily be carried to any other device capable of color space conversion. Therefore taking the combined teachings of Nakajima and Buhr, it would have been obvious to one skilled in the art to have been motivated to have the image data and color space are stored on a PCMCIA card in order to have a portable memory medium which can be easily be carried to any other device capable of color space conversion.

[Claims 40, 41]

Nakajima teaches the limitations of claim 38 but fails to teach that the image data contained in said image file is represented by a first color space, said first color space is YCC; said means for acquiring an image file converts the color space of the image data contained in said image file from said first color space to a second color space, said second color space is first RGB; and said

means for converting the color space converts the color space of said image data from said second color space to a third color space, said third color space is a second RGB.

However Buhr et al. teach image data contained in said image file is represented by a first color space, said first color space is YCC; said means for acquiring an image file converts the color space of the image data contained in said image file from said first color space to a second color space, said second color space is first RGB; and said means for converting the color space converts the color space of said image data from said second color space to a third color space, said third color space is a second RGB (col. 28 lines 32-47, figure 15) in order to convert the image signals stored into appropriate color space for creating a reproduced image on the selected output device.

Therefore taking the combined teachings of Nakajima and Buhr, it would have been obvious to one skilled in the art to have been motivated to have the image data contained in said image file is represented by a first color space, YCC, means for acquiring an image file converts the color space of the image data contained in the image file from the first color space to a second color space, a first RGB and means for converting the color space converts the color space of said image data from said second color space to a third color space, a second RGB in order to convert the image signals stored into appropriate color space for creating a reproduced image on the selected output device.

[Claim 42]

It would be inherent (well known to one skilled in the art) that the second color space (first RGB, e.g. s-RGB) has a gamut width at least equal to a color space like RGB as taught in Nakajima used in the synthesis of the image data.

[Claims 47-49]

Claims 47-49 recite what was discussed with respect to claims 40-42.

[Claim 50]

Buhr teaches in figure 17 a third color space, CIELAB (col. 29 lines 42-61).

5. Claims 16, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima (US Patent # 6,650,437) in view of Parulski et al. (US Patent # 6,310,647).

[Claims 16 and 24]

Nakajima teaches the limitations of claims 15 and 23 but fails that the propagated file structure is an Exif file structure. However Parulski et al. teaches an image file format that is compatible with both Flashpix and Exif (col. 3 lines 49-65) in order to have a standard (exif) that can be opened by any computer application that incorporates a JPEG reader which is a widely used standard compared to Flashpix that is relatively new.

Therefore taking the combined teachings of Nakajima and Parulski, it would have been obvious to one skilled in the art to have been motivated to have used an Exif file structure instead of Flashpix in order to have a standard (exif) that can be opened by any computer application that incorporates a JPEG reader which is a widely used standard compared to Flashpix that is relatively new.

[Claim 25]

Parulski teaches in Table 2 an Exif application marker (read as tag stored in a makernote portion) storing color space values (col. 4 line 66).

6. Claims 37, 39, 44 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima (US Patent # 6,650,437) in view of Applicant's admitted prior art.

[Claim 39]

Nakajima teaches the limitations of claim 38 but fails to teach if said color space information is not retrieved, said means for converting the color space converts the color space of said image data based on predetermined color space information. However Applicant's admitted prior art teaches that if an image with a particular color space is outputted by a DSC to be targeted to a CRT, the color reproduction capabilities of the printer that prints the image may not be fully used which means that the printer does not retrieve the color space information and uses a predetermined color space to process the image data which reduces the overall load on the CPU making the process easier.

Therefore taking the combined teachings of Nakajima and Applicant's admitted prior art, it would have been obvious to one skilled in the art to have been motivated to have used predetermined color space to process the image data if the color space information is not retrieved which reduces the overall load on the CPU making the process easier.

[Claims 37 and 44]

Computer program storing claims 37 and 44 correspond to apparatus claim 39 and are therefore analyzed and rejected the same as previously discussed with respect to apparatus claim 39.

[Claim 46]

Claim 46 recites what was discussed with respect to claim 39.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

i. Ito et al. (US Patent # 6,437,792).

ii. Kiyokawa (US Patent # 6,636,260).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh K Aggarwal whose telephone number is (571) 272-7360. The examiner can normally be reached on M-F 9:00AM-5:30PM.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Groody can be reached on (571) 272-7950. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YKA
March 17, 2005

TUAN HO
PRIMARY EXAMINER